BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF DELAWARE

PSC DOCKET NO. 06-241, REVIEW AND APPROVAL OF THE REQUEST FOR PROPOSALS FOR THE CONSTRUCTION OF NEW GENERATION RESOURCES UNDER 26 DEL. C. § 1007(d)

Recommendations on Term Sheets

Jeremy Firestone
Willett Kempton
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Introduction

On October 29, 2007, the Public Service Commission (PSC) staff submitted a report on and appended the Independent Consultant's (IC's) assessment of the term sheets for new power generation submitted by Delmarva Power. On November 2, 2007, we submitted preliminary comments on the analysis. We have now further reviewed the staff report and state consultant report, the Pace Report filed by Delmarva Power, and the comments of the Public Advocate and its consultant, the Columbia Group,[1] and Bluewater's November 6, 2007 filing in which it agreed to remove the price escalator. In this comment, we make two recommendations, several price comparison metrics, and correct one portion of our earlier comment.

Recommendation # 1

Based on our review and further analysis, we recommend first that the four state agencies take whatever steps are necessary to finalize and approve a long-term power purchase agreement between Delmarva Power and Bluewater Wind. We expect the so-called "wind premium" to be negative (a savings) based on realistic assumptions about future natural gas prices and carbon allowance prices or taxes. Nevertheless, if there is a $5-6 per household per month premium as we calculate below based on IC assumption, or even if it is $8 as suggest by staff, our recommendation would be the same.

Because the fundamentals of the new wind project (with the escalators now removed) are very similar to that which was approved in May, to fail to continue to move forward on the offshore wind bid at this juncture would, be an arbitrary and capricious about face of prior Order 7199. (In fact, the bid is stronger now given that Bluewater is in a much stronger financial position and the impact to consumers has decreased as the net present value (NPV) of wind above the "market" price has decreased from $493 million to $271 million.

We offer in our detailed comments below two independent and simpler benchmarks (Washington Gas land-based wind prices, and the price of the gas fill-in power revealed in the hybrid bid), both of which confirm our and the IC's analysis that the Bluewater wind is not significantly above market, despite offering clean energy, health and employment benefits, and 25 years of price stability.

[1] In a separate filing tomorrow we will address the Pace Group report and the filing of the Public Advocate.

Finally, given that the bid meets the RFP criteria of HB6 (in particular price stability and reduce environmental impacts), and given the Delaware Renewable Portfolio Standard (RPS), failure to proceed with the project places all Delmarva customers are at risk of substantial renewable energy credit compliance payments (RPS penalties increase up to $80/MWh), moving forward on the wind bid is consistent with law and is prudent.

Recommendation # 2

We recommend that the state agencies defer a decision on a natural gas backup plant until after the Integrated Resource Plan (IRP) has been completed. Indeed, we believe such a decision is imperative given the lack of public debate on the natural gas backup plan, the failure of the consultant to analyze the natural gas bids against the earlier Conectiv bid, and to analyze the bids against other options (such as the use of existing and idle natural gas assets in Southern Delaware or the recently-enhanced prospects for new transmission). If additional gas backup is nevertheless deemed necessary now, the amount of backup should be limited to 100 MW and the terms should return to Conectiv's original proposal--only a 10-year commitment, price increases tied to a less volatile coal index, and carbon taxes and RGGI costs not treated as a pass-through.

Prices to Compare

Consumers value price stability and the legislation (HB6) called for price stability. What is the value of price-stable wind? Washington Gas Energy Services (WGES) offers Delaware SOS customers 25% onshore wind, with a year contract for 12.2. c/kWh. (see https://www.wges.com/enroll/index.php). That is, current WGES prices for a fraction of onshore wind comparable to what will be supplied by the Bluewater project is about 8 percent more than Delmarva Customers currently pay.

Another comparison is the WGES offering in the DP service territory for 100% wind. That is offered at 13.90¢/kWh for 1 year or 14.50¢/kWh for two years (from now until this time in 2009). We can make a direct comparison to wind only from Bluewater Wind (by itself effectively 100%). The prices for Bluewater Wind are 11.5 ¢/kWh in 2007 and 11.8¢/kWh in 2008. That is, in year 1, this currently-offered land-based wind is 21% more expensive than the Bluewater offer, and 24% over the Bluewater offer for the two-year combined price. This simple but real market comparison shows both that Bluewater is cheaper than real onshore wind offering in DP service territory, and that with a small 2.5% inflator trends better than market.

Our second benchmark is the “price to compare” in relation to the hybrid bid. Since the current “price to compare” for Delaware SOS customers is 11.3 ¢/kWh and BWW is bidding at a starting price of 11.5¢/kWh, the bid seems *prima facie* to be at present market costs. The counter argument, made qualitatively in the Pace report, is that other charges are added to a wholesale power purchase. The only significant charge on this list (which has no numbers) is the charge for load-following. One value of the hybrid bid is that filling in wind is the same as load following (meeting an irregular demand based on forecasts). Moreover, we note that the price of the hybrid bid at 10¢/kWh is comparable to the 1, 2, and 3 year load-following contracts that Delmarva has been entering into over the last couple of years. This offers a separate check on the complex analysis by multiple consultants in this docket—it confirms by simple comparison

the conclusion of the IC and ourselves that the wind bid and the hybrid bids are *prima face* not significantly above current market prices, while offering 25-years of price stability.

Finally, if all of the consultants and their clients who are now calculating that someone can provide power for 25 years at lower prices, and with only a 2.5% inflation escalator per year, why didn't they offer a bid? As any energy economist will confirm, this would be a risky deal, far more risky than the trumped-up risks attributed to the Bluewater project. That is one reason Bluewater in the initial bid competition, was the only one to offer price stability at near-current prices.

Monthly Household Impact

First, we regret and herewith correct an error in our filing of 2 November 2007 ("Point-Counterpoint"). The error was in our interpretation of Table 13 from the IC report, cited in Staff report. That table is reproduced here with the addition of "equation number" labels for ease of discussion.

Table 13: Comparison of Old BW and New BW with Various One-Time Adjustments (25% Risk Factor)

Equation No.		Above Market NPV ($million)	300 MW Block Cost Real Levelized (2007$/MWh)	SOS Cost Impact Real Levelized (2007$/MWh)
1	Old BW (2006)	$203	$95.27	$6.23
2	New BW (No Adj)	$271	$100.52	$8.06
3	New BW (Conservative Adj)	$398	$106.12	$11.71
4	New BW (Conservative Adj-Delayed)	$448	$108.33	$13.16
5	New BW (Historical Adj)	$994	$132.44	$28.86
6	New BW (Historical Adj-Delayed)	$1,919	$173.32	$55.49

Our error was due to the assumptions used by the IC (discount rate, market price, load forecast), never being provided to the public. After many days of puzzling over the numbers in Table 13, we have been able to decipher the assumptions and back-calculate the metrics assumed in that table. Below (in Table A) we provide the metrics that we now believe were assumed by the IC in Table 13 and then explain how we reverse-engineered them (Table B). Some readers may wish to skip the derivation.

As a matter of process, we are troubled by the lack of transparency in the IC's analysis, which unfortunately was then carried over into the staff report, and which in turn, left us all puzzled by the assumptions contained in the IC's report. In this regard, the IC report of *October 29, 2007* was even less transparent than past reports, which others have characterized as a "black box." On the other hand, we appreciate that for the present report the PSC staff did not direct the IC to rely on any interested party's computer model, which improved transparency and made possible the checks and corrections we carry out here. More importantly, it provides the proper degree of independence.

Table A: Metrics deduced to have been used by the IC.

Metric	Value Employed
IC Total Average Load (2014-2039)	460.27MW
IC Market Price (2007$/MWh)	$88.2/MWh
Effective IC Discount Rate (for NPV calculation)	6%

Table B: Our Derivations of the IC assumptions.

From Table 13, from each row of the new BW project (the five variations) an equation can be generated that has two unknowns, load and "market" price (MP).

(i) Where the (300 Block Price – MP)*(300MW/Load) = SOS IMPACT

We solved for market price, so that MP = 300 Block Price – (300/LOAD)*SOS IMPACT We then set two of the five Table 13 equations equal to one another to yield equation ii, where

(ii) Load = 300*(Block $cost_{cons\ adj}$ – $Blockcost_{no\ adj}$)/($SOS\ IMPACT_{cons\ adj}$ – $SOS\ IMPACT_{no\ adj}$)

Solving for Load, yields 460.27MW. Plugging that into equation i, we could then solve for the IC's "market" price--$88.2/MWh. We then checked our math using the lines for Bluewater, the Conservative Adj., and the Conservative Adjusted-Delayed (equations 2-4 it Table 13), and yield the numbers in the last column of that table ($8.06, $11.71, and $13.16).[2]

To calculate the Effective IC discount rate for the Net Present Value calculation (NPV), we use (a) the annual MWh for the wind project (as compared to the 300 MW block); (b) the IC estimate of the real levelized $2007 for the wind project; and (c) the market price. The first two figures are in Table 3 of the IC report and are respectively, 1,106,000MWh and $115.06/MWh. As noted above the IC market price is $88.2/MWh. This means that for those MWh that the wind project will supply it is $26.86/MWh ($2007 levelized) above market. If the project were operational now that would translate into $29.7 million for the year 2007. However, if we use 2014 as the year in which the project begins operating, than discounted at 6% per year, $29.7 million is only $19.76 million in the year 2014 and $4.9 million in the year 2039. Summing years 2014-2039 (the 25-year life of the project), yields $268 million, which is only slightly at variance from the IC's $271 million and is likely due to rounding errors.[3]

[2] If one solves for "market price" using the dollars over market and the MWh in Tables 3 and 13 of the IC Report for wind only and wind/market block, one derives a market price of $89.95; however, at that market price the load generated from equations 2-4 varies and is respectively 393MW, 414MW, and 419MW. Thus, we believe the market price derived from solving the equations simultaneously is the one used by the IC.

[3] Similar analyses of the conservative adjusted and the conservative delayed Bluewater prices yielded NPVs of $400 million and $453 million, again very close to the IC figures.

Having now decoded the IC's analysis as best we can, we reverse that portion of Point 3 in our filing of 2 November 2007 that claimed the IC erred in applying the wind price to rate impact. That is, we now agree with the IC that given the assumptions that went into his model, the average Delmarva SOS customer's monthly electric bill would be expected to increase by $8.06/month.

There are however several errors in the assumptions of the IC which led him to over-inflate the extent to which the wind bid is over the hypothetical market price (not including our past expressed disagreement with his use of low prices for carbon and future natural gas prices). In steps 1 and 2 below, we correct for the new errors, yielding a monthly bill impact of $5.67 for the wind component alone.

1. The IC estimates the load represented by the wind farm at 30% based on a faulty estimate of Delmarva's load in 2014 at 3,703GWh in 2014, which translates into an average 2014 load of 422.7MW in any given hour. However, Delmarva presented data in a February 27, 2007 powerpoint as part of this docket indicating that average load would be 444 MW in 2014.[4] If one extrapolates this trend until 2039, average load throughout the contact period will be approximately 487MW. This suggests that the wind farm will represent a little less than 26% percent of the RSCI load. Table 3 of the IC report provides a real levelized cost for the 1,106 million MWh per year wind project in $2007 of $115.06/MWh. If we use that figure and assume the IC's 30% wind load, Table 3 generates a wind premium of $8.06MW.[5] If instead we use the 460MW that our detective work leads us to believe that the IC used in Table 13, the wind premium decreases to $7.37. When we base the analysis on the correct estimated average load of 487MW, the wind premium decreases to $6.96 over the hypothetical market.

2. While at first blush, it appears the consultant's estimated market price has increased—from $86.2/MWh to $88.2/MWh—it actually is a decrease because the former figure was expressed in 2005 dollars and the latter in 2007 dollars. Because consumer prices increased by approximately 6.5% over the two-year period, we can take $86.2 forward or the 2007 wind only price ($115.06/MWh) back to 2005 dollars. To provide the easiest comparison with past reports, we take the wind price back to 2005 dollars, yielding a wind only price of $108.08/MWh. Correcting for this discrepancy between the earlier and later analyses, decreases the wind block over market to $6.56/MWh. If we combine this market price correction with the load correction above, the wind block over market becomes $5.67/MWh. In other words, consumers' monthly bills would increase on average over the life of the project in real terms by about $5.67 a month, assuming the average 1000MW/month users.

[4] In its earlier December 2006 filing in the IRP docket, Delmarva estimated that load would be 437MW in 2014.

[5] We are unable to reconcile why an analysis of the IC's above-market figure for the wind only using a 30% hypothesized wind load and a separate analysis of the IC's above-market figure for the wind/market hybrid with a 460MW load average (27.45% of load), yields the same $8.06/MWh over market. It suggests that some figure in the report is not correct.

Three additional considerations affect the weight that should be accorded to the IC adjusted calculation of $5.67 per month potential impact.

3. Since 2005, the consumer price index has increased by about 6.5% while the Bluewater price escalator results in only a 5.06% increase over the same period. This means that in real terms since 2005, the Bluewater price has gotten cheaper for ratepayers. If inflation continues to exceed 2.5%, the Bluewater project will continue to get cheaper each year.

4. The IC continues to use EIA projections for increases in natural gas prices. As we have noted before on this docket, EIA projections have been shown by analysts to have been consistently low. How many expect natural gas prices 25 years hence, in real terms, to be the almost the same as prices today? A more realistic estimate of natural gas prices, and thus market fuel and electricity prices, would reduce the premium for wind.

5. Finally, as we noted in our earlier comments in the spring, if one assumes moderate carbon allowance prices or taxes in addition to a more realistic estimate of future natural gas prices, the so-called "wind premium" vanishes, and at high carbon prices, is apt to be a savings. Moreover, as we have noted, we would expect about $750 million (NPV) in avoided health costs; this benefit alone is far in excess of the IC's calculated $271 million NPV cost over market.

For the reasons set forth above we recommend that four state agencies move forward with the wind bid, but defer decision on the natural gas bids until after the IRP, or incorporate it into the IRP process.

Respectfully submitted,

Jeremy Firestone
Willett Kempton